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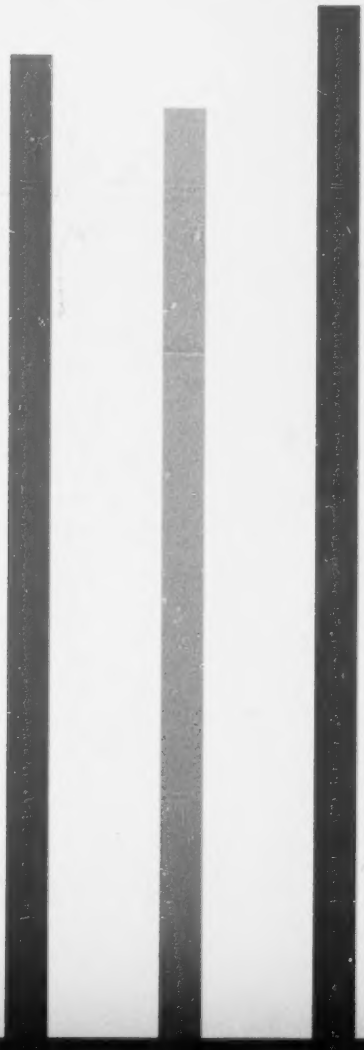
COUNCIL
ON
COMPETITIVENESS

# COMPETITIVENESS INDEX



# INTRODUCTION

The Council on Competitiveness is pleased to publish its first Competitiveness Index. The Index has one fundamental purpose: to translate "competitiveness" into terms that the American public can readily understand. The Council defines "competitiveness" as "the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously maintaining or expanding the real incomes of its citizens." The Council believes that sustained and effective steps to help U.S. businesses and workers compete will not occur until the American people know where they stand in the world economy — and, more important, until they recognize how America's standing affects their daily lives.

The Index translates into concrete terms the vague public anxiety that the United States is losing its competitive edge. Although economic indicators such as GNP growth, inflation and unemployment are reported regularly, there is no set of economic indicators that systematically measures America's ability to compete in world markets. The Competitiveness Index was created to show how U.S. economic performance compares to that of other nations and how current U.S. performance compares to its past record. The Index is a guide for the American people, not a sophisticated tool for policymakers or a definitive economic analysis. It is a snapshot of what the Council believes are the key indicators of U.S. competitiveness.

## The Pyramid of Competitiveness

No single measure adequately reflects the complexity of a nation's competitive performance. Consequently, the Council has compiled a box score — comprising four indicators that we believe combine to form the critical and interrelated building blocks of competitiveness.

Picture a pyramid. At the pyramid's pinnacle is the **standard of living**, the ultimate aim of a productive nation. Standard of living is measured here as Gross Domestic Product plus the current account balance divided by the number of employed persons. As such, it shows on a per worker basis how much income is generated, plus or minus any change in what is owed to foreigners.

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How well we live is increasingly determined by how well we compete with foreign products. Therefore, just below standard of living is **trade** — what we sell overseas compared to what we buy. The Index reports the U.S. share of world exports as the measure of the U.S. ability to compete in international markets.

Our ability to compete in international markets, in turn, is influenced by our **productivity**, or output per employee. U.S. productivity fundamentally affects the cost of American products relative to those of other nations. Because the bulk of U.S. trade is in manufactured goods, the Index focuses on manufacturing productivity.

Finally, at the base of the pyramid are the building blocks of productivity — the combined **investment in education, R&D, and plant and equipment**. These investments build the skills, knowledge and assets that underpin long-term international economic success. They are calculated here as a weighted average of the percent of GNP spent annually in these three areas. While the first three indicators provide a snapshot of current U.S. performance, the Investment Index shows whether the United States is positioning itself for long-term success.

Without overstating the direct cause-and-effect relationships or underestimating the time lags, it is important to see the links among these four categories — how our standard of living is related to how much we sell abroad, how our exports depend in part on how productively we work, and how our productivity depends significantly on how wisely we invest. Although a nation may be able to maintain a high standard of living in the short-term, it cannot do so in the long-run without sustained attention to trade, productivity and investment. (A more detailed description of these four components is found in the appendices.)

No single number can capture a phenomenon as complex as competitiveness. Nevertheless, based on extensive research and discussions with leading business, academic and labor executives and economists, the Council believes that these four indicators together comprise the best possible summary of U.S. competitiveness.

## Relative Performance

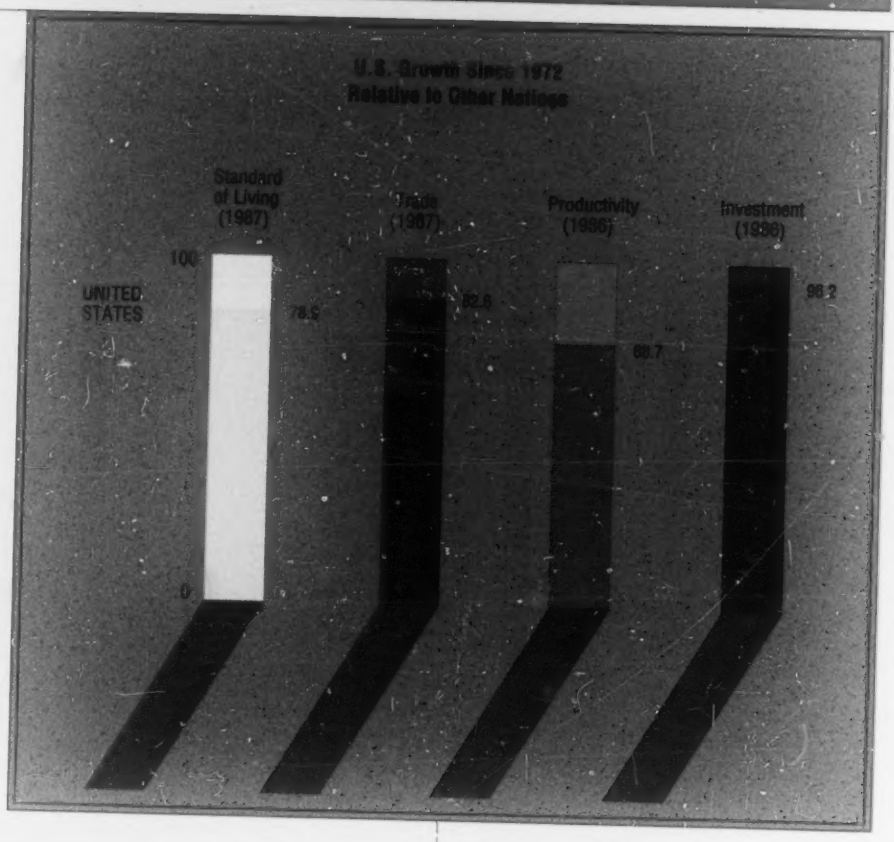
The Index is unique in that it compares current U.S. performance to past performance and to the performance of other nations. This relative comparison is critical. The U.S. economy cannot be judged in isolation from the rest of the world; it must be viewed relative to that of our major competitors. Just as there is no single indicator of competitiveness, there is no single nation against which to measure America's performance. In three of the four categories — standard of living, productivity and investment — the Council's Index focuses on how the United States compares to the average of the **Other Summit 7** industrialized countries: Canada, France, Italy, Japan, United Kingdom and West Germany. In the remaining category — trade — the U.S. performance is reported as a share of the world total in order to take into account the rapid export growth of Asia and Latin America.

Information is also provided on how the U.S. compares with two specific nations within the Other Summit 7 category: **Japan and West Germany**. Although these two countries are included in the average of the Other Summit 7, they are also listed separately because they are our two biggest industrial competitors. The

Council would also have liked to include the performance of the Newly Industrialized Countries (such as Hong Kong, South Korea, Taiwan, Mexico and Brazil), but the lack of timely, accurate data made that impossible.

The Council chose 1972 as its base year in order to show how the United States has performed over the long-term. The Council set the Index equal to 100 for that year. **A rise in the Index to more than 100 shows that the United States has outperformed other nations since then; a drop in the Index to below 100 shows that other countries are outperforming the United States.** In each of the four categories — standard of living, trade, productivity and investment — the Index has dropped below 100, in some cases significantly, showing that the United States has been outperformed by other countries.

The Council, with the help of The WEFA Group (Wharton Econometric Forecasting Associates), intends to update its Index on a semi-annual basis. The next Index will be released in January 1989. By publishing the Index twice a year, the Council hopes to develop ongoing public awareness and understanding of the competitiveness crisis and, more important, to help build public support for the steps required to improve America's ability to compete in world markets.




Standard of Living, Productivity and Investment measure U.S. growth compared to the average growth of the Other Summit 7 industrial nations: Canada, France, Japan, Italy, United Kingdom and West Germany. Trade measures U.S. export growth as a share of world export growth. The base year, 1972, equals 100; measured in constant 1980 dollars.

### The Bottom Line

- In all four categories, U.S. performance is below 100, showing that since 1972 increases in America's standard of living, trade, productivity and investment have not kept pace with the performance of our major foreign competitors.
- The last year saw continued declines in the Standard of Living Index and Productivity Index, but improvements in the Trade Index and no change in the Investment Index.

### Standard of Living

- Since 1972, the U.S. standard of living has grown only *one-fourth* as fast as the average standard of living of the Other Summit 7 industrial nations. As a result, the Standard of Living Index has dropped 21.1 points, from 100 to 78.9.
- In 1987, America's standard of living continued to grow more slowly than that of Other Summit 7 countries; as a result, the Standard of Living Index fell by 0.9 points last year alone.

### Trade

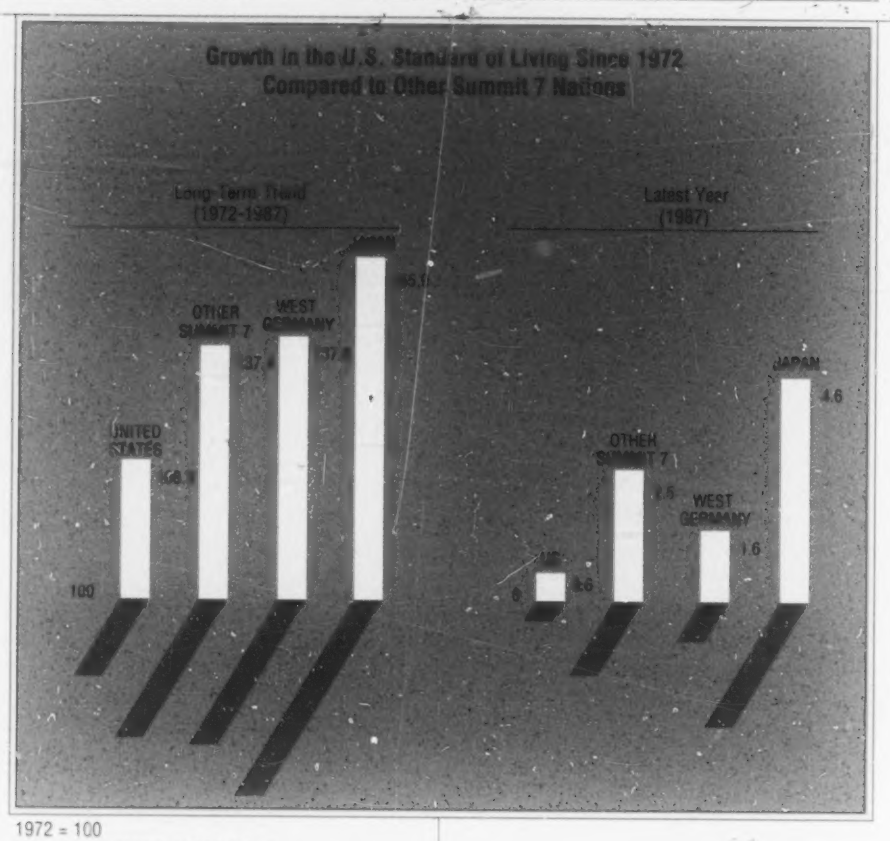
- Since 1972, as the U.S. share of world exports has declined, the Trade Index has fallen from 100 to 82.6. This decline reflects the rapid export growth of Japan and other newly developing countries in Asia and Latin America.
- In 1987, aided by a lower dollar, America's exports increased much faster than the rest of the world's and three times faster than Japan's. As a result, the Trade Index rebounded from 74.5 to 82.6.
- Because U.S. imports also rose sharply in 1987, however, the U.S. trade deficit did not decline.

### Productivity

- Sluggish U.S. manufacturing productivity growth relative to Japan, West Germany and the other industrial nations since 1972 has driven down the Productivity Index from 100 to 68.7.
- In the latest year (1986), the Productivity Index declined slightly, showing that U.S. manufacturing productivity continues to grow at a slower rate than the average of the Other Summit 7 industrial nations.

### Investment

- Since 1972, U.S. investment in future competitiveness has not kept pace with the investment of the Other Summit 7 nations as a percent of GNP. As a result, the Investment Index has dropped from 100 to 96.2.
- In the latest year for which data are available (1986), the United States increased its investment in R&D, capital equipment and education at about the same rate as the Other Summit 7 nations; as a result, the Investment Index remained steady at 96.2.




1972 = 100
Measured in constant 1980 dollars.

■ Since 1972, the U.S. standard of living measure increased from 100 to 108.3 points, only about one-fourth as fast as the average of the Other Summit 7 and West Germany, and only about one-seventh as fast as Japan (See chart, above left).

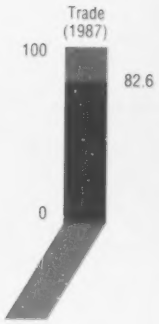
■ Because U.S. growth has been slower than the average of the Other Summit 7 nations since 1972, the Standard of Living Index has declined 21.1 points over the past 15 years from 100 to 78.9 (See Index, upper left).

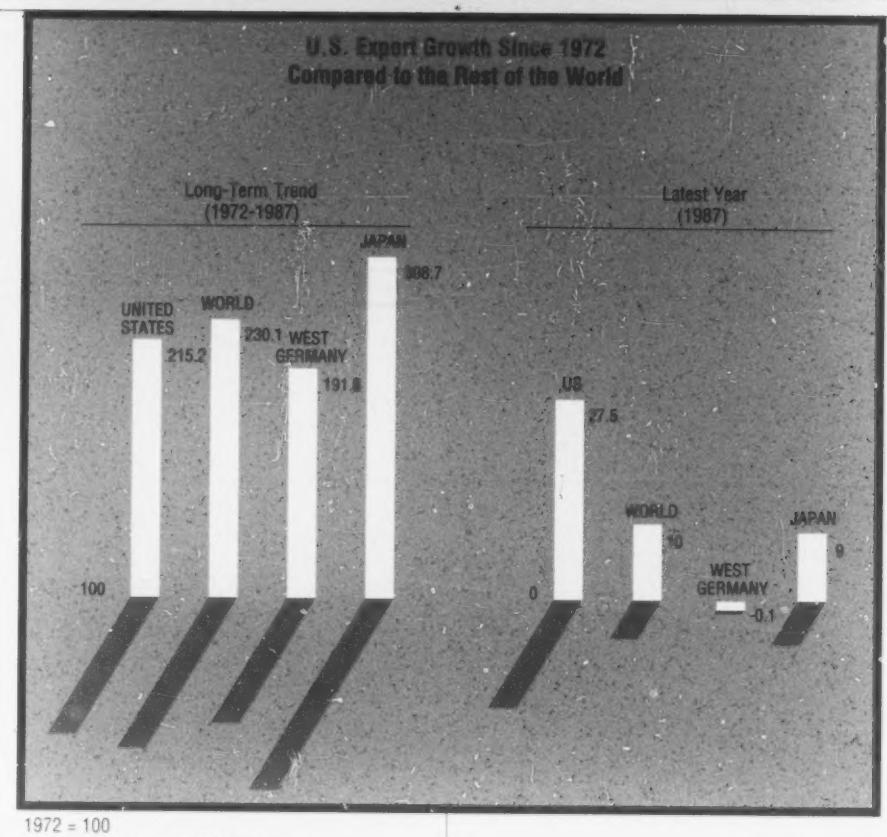
■ The latest standard of living figures continue the long-term trend. The American standard of living increased by only 0.6 points in 1987, less than the average of the Other Summit 7, West Germany and Japan (See chart, upper right). Since the U.S. standard of living grew more slowly than the Other Summit 7 last year, the Standard of Living Index slipped from 79.8 to 78.9.

■ In absolute terms, the average American's standard of living is still higher than the average of the Other Summit 7, but because of slower U.S. growth, those nations are rapidly catching up. (Detailed information is provided in Appendix I: Trends in Absolute Growth.)

■ Similar trends are evident in wages for American manufacturing workers. Since 1972, U.S. manufacturing wages have increased much more slowly than West Germany's or Japan's. As a result, West German manufacturing workers now earn substantially more than Americans, and the Japanese are rapidly gaining. (Detailed information is provided in Appendix II: Background Data.)

**Standard of Living** is defined as Gross Domestic Product plus the balance on the current account divided by the number of employed persons. A rising standard of living is the ultimate aim of a productive nation. The Council's definition of standard of living differs from traditional measures in its focus on employees rather than the overall population and in its treatment of the current account. It shows on a per worker basis how much income is generated, plus or minus any change in what is owed to foreigners. By taking into account changes in foreign debt, the measure gives insight into potential future living standards. The Standard of Living Index compares U.S. performance to the average of the Other Summit 7. (The full technical definition and discussion of terms is found in Appendix III: Methodology.)




1972 = 100
Measured in constant 1980 dollars.

■ Since 1972, U.S. exports have not grown nearly as fast as world exports, despite the fact that America's share of world GNP has remained steady at about 23 percent (See chart, above left).

■ As a result of the relatively slower U.S. export growth, the Trade Index fell from 100 in 1972 to 82.6 in 1987 (See Index, upper left).

■ In 1987, however, U.S. exports ran counter to this downward trend and expanded much faster than the rest of the world. Last year, America's exports of goods and services increased 27.5 points (See chart, above right). As a result, the Trade Index increased from 74.5 to 82.6 in 1987.

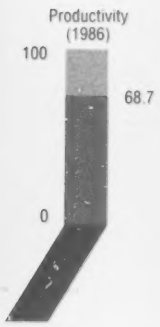
■ The 1987 trend shows how sensitive U.S. exports are to the value of the dollar. In the early 1980s, when the dollar was high, American exports declined. Since the drop of the dollar in 1985, U.S. exports have climbed dramatically.

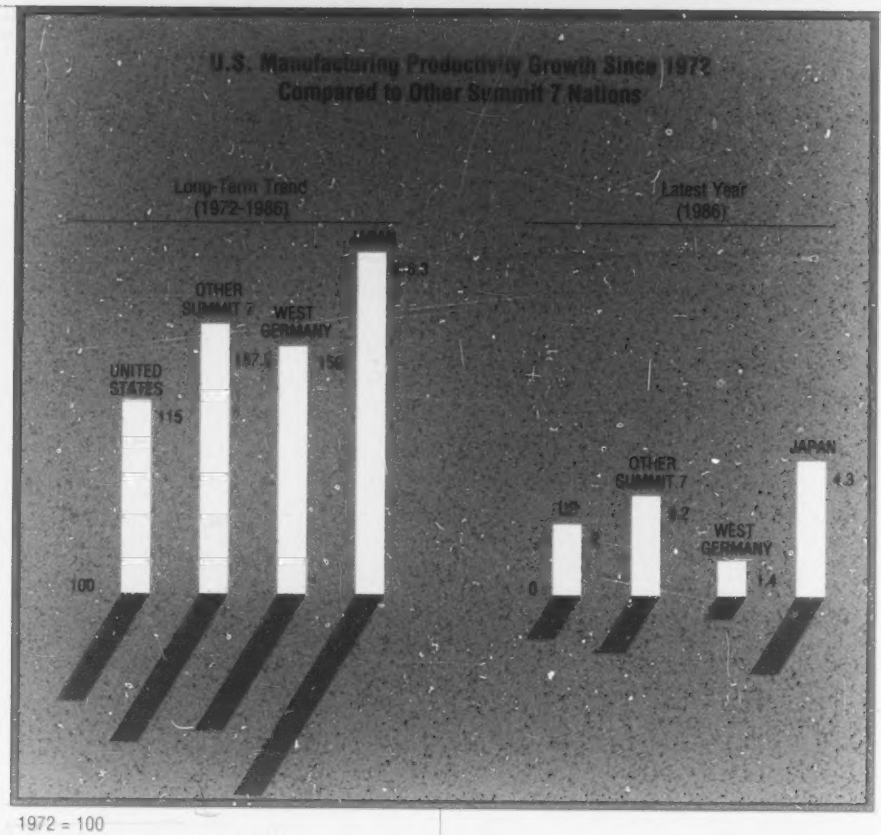
■ In absolute terms, the surge in U.S. exports has pushed the United States ahead of West Germany as the world's leading exporter. (Detailed information is provided in Appendix I: Trends in Absolute Growth.)

■ Despite the recent burst of U.S. exports, however, the United States still faces long-term competitiveness problems. First, because U.S. imports rose rapidly in 1987, America's trade deficit has not declined. Second, because U.S. productivity growth and investment continue to trail those of other industrial nations (see following pages), U.S. exporters may have trouble increasing future sales without further reductions in the value of the dollar.

■ The increasing U.S. reliance on imports is attested to by the fact that since 1972 U.S. manufactured imports have risen more than twice as fast as U.S. manufactured output. (Detailed information is contained in Appendix II: Background Data.)

**The Trade Index** measures the U.S. share of world exports. How well we live is increasingly determined by how well we compete in world markets. The Council chose exports as the single best indicator of the U.S. ability to compete worldwide. The Index focuses on the U.S. share of total world exports in order to take into account the rapid export growth of Asia and Latin America. (A complete definition is found in Appendix III: Methodology.)




1972 = 100
Measured in constant 1980 dollars.

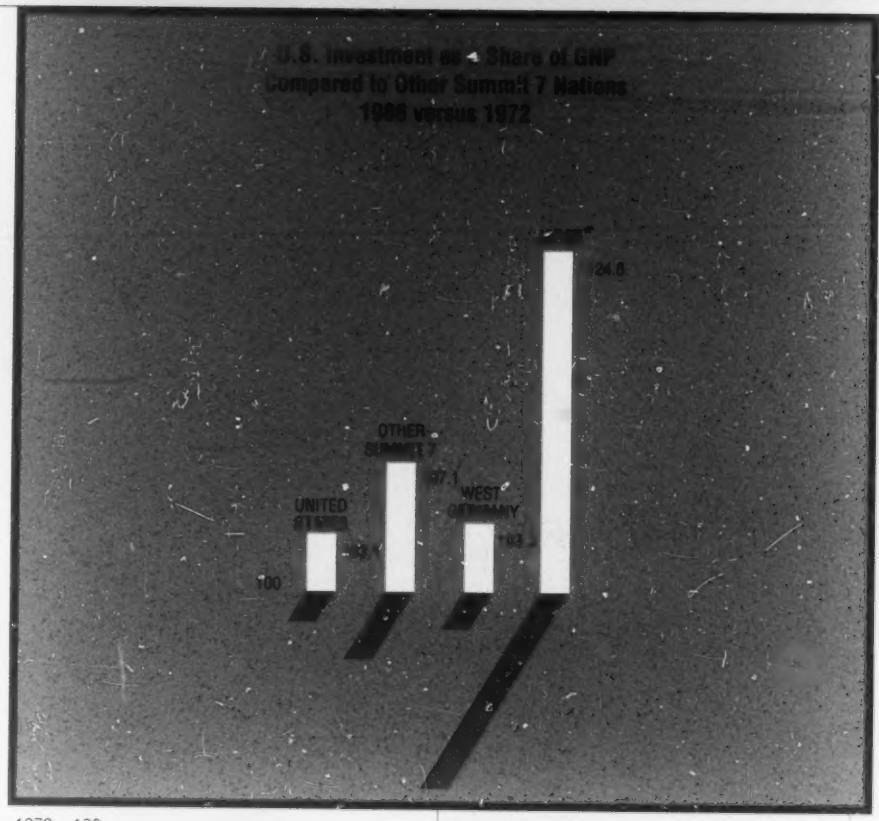
■ From 1972-1986, American manufacturing productivity expanded only 15 points, about one-fourth as fast as the average of the Other Summit 7 nations, one-third as fast as West Germany's and one-eighth as fast as Japan's (See chart, above left).

■ As a result of the slower U.S. manufacturing productivity growth relative to the Other Summit 7 nations, the Productivity Index declined from 100 in 1972 to 68.7 in 1986 (See Index, upper left).

■ During 1986 (the last period for which complete data are available), the measure of U.S. manufacturing productivity growth increased 2 points, faster than West Germany's, but more slowly than the average of the Other Summit 7, and only half as fast as Japan's (See chart, above right). As a result, the Productivity Index declined from 68.8 to 68.7.

■ In absolute terms, the United States still has the highest overall manufacturing productivity. But lagging growth rates have virtually eliminated the sizable productivity advantage that America enjoyed in the early 1970s. (More detailed information is provided in Appendix I: Trends in Absolute Growth.)

**The Productivity Index** measures output per employee in the manufacturing sector. Productivity is important because it fundamentally affects the cost of American products relative to those of other nations. The Productivity Index compares U.S. performance to the average of the Other Summit 7 industrial nations. (A complete definition is found in Appendix III: Methodology.)




1972 = 100
Measured in constant 1980 dollars.
* 1984

* Due to insufficient data, 1985-1986 do not include Japanese spending on education. For a detailed explanation, see Appendix III: Methodology.

■ In 1986 (the latest year for available data), U.S. investment as a percent of GNP was up 3.1 points from 1972 levels, about the same increase as West Germany's, but less than half the Other Summit 7 average and substantially less than Japan's (See chart above).

■ Because U.S. investment has not grown as rapidly as the average of the Other Summit 7 since 1972, the Investment Index dropped from 100 in 1972 to 96.2 in 1986 (See Index, upper left).

■ As a percent of GNP, the United States spends relatively more on education and R&D, but less on plant and equipment than the average of the Other Summit 7. Since 1972, U.S. investment in education has declined as a percent of GNP, while investment in plant and equipment and R&D has grown.

■ Since 1972, U.S. investment in education has increased at about the same rate as the average of the Other Summit 7; U.S. investment in plant and equipment has grown much faster than the Other Summit 7 average; and U.S. investment in non-defense R&D has grown more slowly than the Other Summit 7 average. (More complete information is found in Appendix I: Trends in Absolute Growth, and Appendix II: Background Data.)

■ America's extremely low savings rate undermines its ability to finance productive investment. In 1986, the aggregate U.S. savings rate fell to its lowest level in over 15 years. Although the average savings rates of the Other Summit 7 nations and West Germany also declined slightly, they remain well above the U.S. level. In Japan, the aggregate savings rate actually increased in 1986 to almost double that of the United States.

**Investment** is calculated as a weighted average of annual expenditures for education, non-defense R&D, and plant and equipment. These investments build the skills, knowledge and assets that underpin productivity, trade and, ultimately, the standard of living. The Investment Index compares the U.S. performance to the average of the Other Summit 7 nations. (A complete definition is found in Appendix III: Methodology.)

# ACKNOWLEDGMENTS

The Competitiveness Index has been developed over the past several months by the Council on Competitiveness, working in conjunction with The WEFA Group (Wharton Econometric Forecasting Associates).

Council Executive Committee member Michael Porter (Professor, School of Business Administration, Harvard University) served as Project Adviser. The WEFA Group, especially Lawrence Chimerine (President) and Gerald Godshaw (Director of Government Policy Analysis), helped perform the economic analysis. Council Vice President Daniel Burton, Jr. served as Project Director.

# ABOUT THE COUNCIL

Founded in 1986, the Council on Competitiveness is an organization of leading executives from industry, organized labor and higher education who have one overriding objective: to improve the ability of American companies and workers to compete in world markets. Among the Council's more specific goals are to increase public awareness of the competitiveness challenge; to promote consensus and cooperation on competitiveness-related issues within the private sector; and to assist in the development of far-sighted government policies that help Americans compete.

The Council is governed by an executive committee and draws on the resources of its national affiliates — more than two dozen trade associations, professional societies and research organizations — to help coordinate private sector activity. The Council is privately supported through contributions from its members, foundations and other granting institutions.

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Washington, DC 20004
(202) 662-8760